SECTION 28 1321

ADMINISTRATIVE ACCESS CONTROL SYSTEM ROUGH-IN

****
LANL MASTER SPECIFICATION

When editing to suit project, author shall add job-specific requirements and delete only those portions that in no way apply to the activity (e.g., a component that does not apply). To seek a variance from applicable requirements, contact the ESM Electrical POC.

When assembling a specification package, include applicable specifications from all Divisions, especially Division 1, General Requirements.

Delete information within “stars” during editing.

Specification developed for ML-3 projects. For ML-1 / ML-2, additional requirements and QA reviews are required.
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PART 1 GENERAL

1.1 SECTION INCLUDES

A. Administrative access control system rough-in that originates in the telecommunications room and extends to each access-controlled door for LANL-furnished badge readers, door contacts, and contractor-furnished electric strikes.

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Edit the following article to match project requirements.
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B. Access controlled doors include:

1. Each exterior door or set of doors except at vestibules install the access controls on the interior door or set of doors.

2. Electrical room doors.

3. Mechanical room doors.

4. Telecommunications room doors.

5. Server room doors.

1.2 LANL FURNISHED MATERIALS FOR CONTRACTOR INSTALLATION

A. None

1.3 LANL FURNISHED AND INSTALLED EQUIPMENT

A. LANL will furnish and install badge readers, power supplies, and control equipment.

1.4 LANL PERFORMED WORK

A. LANL will make final wiring connections to administrative access control equipment.

1.5 SUBMITTALS

A. Submit the following in accordance with Section 01 3300 Submittal Procedures:

1. Catalog Data: Submit manufacturer's data on power, signaling, control cables, electric door strikes, and panic bars.

2. Test Reports: Provide inspection and test report for each power, signaling, and control cable.

3. As-Built Drawings: Provide as-built drawings showing installed administrative access control system raceways, boxes, and cables.

1.6 QUALITY ASSURANCE

A. Conform to requirements of the National Electrical Code (NEC).

B. Furnish products listed and labeled by a Nationally Recognized Testing Laboratory (NRTL) as suitable for purposes specified and shown.

1.7 COORDINATION

A. Coordinate installation of administrative access control system rough-in with the LANL Telecommunications Group.

B. Coordinate electrical requirements for electric strikes with the LANL Telecommunications Group. Refer to paragraph 2.4-B in this Section.

C. Complete telecommunications rooms to allow not less than 5 working days for the LANL telecommunications group to install badge reader equipment rack before scheduled start of badge reader system installation. Coordinate schedule with the LANL Project Leader.

1.8 RECEIVING, STORING AND PROTECTING

A. Receive, store, and protect, and handle products and materials according to NECA 1 Standard Practices for Good Workmanship in Electrical Construction.

PART 2 PRODUCTS

2.1 PRODUCT OPTIONS AND SUBSTITUTIONS

A. Refer to Section 01 2500, Substitution Procedures.

2.2 RACEWAYS AND BOXES

A. Provide 4-11/16 square, 2-1/8 inch deep boxes for badge reader outlets. Provide single-gang raised device covers that match the thickness of the wallboard. Provide box supports to prevent movement of the box.

B. Provide flush-mounted 10” X 10” X 4” hinged cover badge reader junction boxes with flush-locking latch and wood mounting panel. Hoffman A-TC1010F

C. Outside boxes must be weatherproof, R4 or R12, with continuous hinges.

D. Refer to Section 26 0553, Raceways & Boxes for Electrical Systems.

2.3 CABLES

A. Furnish power, power/switch, and data cables.

B. For power cable use 1-twisted pair, 18 AWG stranded, UL type CMG, Belden 9740.

C. For power/switch cable use 2-twisted pairs, 22 AWG stranded, UL type CMG, Belden 9744.

D. For data cable use 2-individually shielded twisted pairs, 24 AWG, UL Type CMP, Belden 82729.

2.4 ELECTRIC DOOR STRIKES AND PANIC BARS

A. Furnish electric door strike for each access-controlled door or set of doors. Provide electric panic bars for access controlled doors as indicated on the Drawings.

B. Provide 24-volt door strikes and panic bars that operate on 0.5 amperes or less, are easily serviceable, and are electrically compatible with the LANL-furnished access control system, functionally compatible with each access-controlled door, and with finish compatible with the other door hardware. (Von Duprin crash bars EL33, EL35,EL98 and EL99 are NOT allowed. Von Duprin E996L and E360L-BE trims are Acceptable.)

C. Coordinate with Section 08 7100, Door Hardware.

PART 3 EXECUTION

3.1 EXISTING WORK

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Delete this article when existing construction is not affected.
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A. Remove abandoned administrative access control system cables.

B. Remove abandoned raceways and boxes when administrative access control system cables servicing boxes are abandoned or removed. Install blank cover for abandoned boxes not removed.

C. Maintain access to existing administrative access control system connections remaining active and requiring access. Modify installation or provide access panels.

3.2 EXAMINATION

A. Verify interior of the building has been protected from weather.

B. Verify that installation of telecommunications rooms is complete.

C. Examine raceways and building finishes for compliance with installation tolerances and other conditions affecting performance of the administrative access control system. Do not proceed with installation until unsatisfactory conditions have been corrected.

3.3 RACEWAY AND BOX INSTALLATION

A. Install a complete raceway and box system for administrative access control system.

B. Install a flush mounted 4-11/16 square, 2-1/8 inch deep badge reader outlet box on the strike side of each access-controlled door. Flush mount the outlet box with center 44 inches above the finished floor and approximately 12 inches from the doorframe. Provide single-gang raised device covers that match the thickness of the wallboard. Provide box supports to prevent movement of the box. At each exterior location provide a minimum 12 inch x 12 inch surface around the outlet box suitable for mounting the LANL badge reader weather shield.

C. Install a flush-mounted 10” X 10” X 4” hinged cover badge reader junction box on the wall interior to the card reader with center 56 inches above the finished floor and approximately 12 inches from the door frame.

D. Install a 3/4 inch conduit from each badge reader outlet box to the nearby badge reader junction box.

E. Install a 1/2-inch conduit from the badge reader junction box to the access-controlled doorframe for cables to the electronic lock and door contacts.

F. Install a 1-inch conduit from each badge reader junction box to the badge reader wireway in the entrance telecommunications room.

G. Install a 6” X 6” wireway in the telecommunications room and located above the cable tray. Terminate conduits from badge readers into the wireway. Install a 2 inch conduit from the wireway to the LANL badge reader equipment rack; coordinate with the LANL Telecommunication Group.

3.4 CABLE INSTALLATION

A. Clean foreign matter from interior of boxes and conduits before installing cables.

B. Install one power/switch cable from the access controlled doorframe strike location to the badge reader outlet box. Leave 15 inches slack at both ends and 15 inches coiled slack in the badge reader junction box.

C. Install one power/switch cable from the access controlled doorframe contacts location to the badge reader outlet box. Leave 15 inches slack at both ends and 15 inches coiled slack in the badge reader junction box.

D. Install one data cable from the badge reader outlet box to the badge reader equipment rack. Leave 15 inches slack at the badge reader outlet box and enough slack to reach bottom of badge reader equipment rack.

E. Install one power cable from the badge reader outlet box to the badge reader equipment rack. Leave 15 inches slack at the badge reader outlet box and 8 feet slack at the badge reader equipment rack.

F. Uniquely identify each cable at both ends using a numbering scheme that complies with instructions from the LANL Telecommunications Group; use a tag or an indelible marker

3.5 DOOR STRIKE AND PANIC BAR INSTALLATION

A. Install electric door strikes and panic bars in accordance with manufacturer’s instructions. Have installation instructions available at the construction site.

B. Adjust electric strikes for proper fit and proper electrical and mechanical operation.

3.6 GROUNDING

A. Ground badge reader raceways and boxes in accordance with Section 26 0526, Grounding and Bonding for Electrical Systems, Secondary Grounding using the raceway system as the equipment grounding conductor.

3.7 FIELD QUALITY CONTROL

A. Test power, power/switch, and control cables for continuity, shorts, and unintentional grounds.

B. Verify proper labeling of cables.

C. Submit test and inspection report.

END OF SECTION

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Do not delete the following reference information.

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FOR LANL USE ONLY

This project specification is based on LANL Master Specification 28 1321 Rev. 1, dated April 6, 2006.